

CLAIMS

1. A liquid dispensing apparatus capable of regulating a discharged amount of liquid, the apparatus comprising:

a main body having a liquid storing part formed therein and a protrusion part communicating with the liquid storing part at a side of the main body, downwardly protruding and having a threaded part formed therein, a support member having a liquid supply aperture formed thereto being provided in the protrusion part;

a liquid discharge-operating member supported to be vertically movable on the support member provided to the protrusion part of the main body and controlling a liquid inflow into the protrusion member;

a cover fixed on an upper part of the main body to which the liquid discharge-operating member is supported and having a hole through which a part of the liquid discharge-operating member is protruded and an opening into which a liquid supply receptacle is inserted and fixed;

a liquid discharging member thread-engaged to be relatively movable to the threaded part of the protrusion part, capable of changing an inner space formed with the protrusion part and vertically moved as the liquid discharge-operating member is vertically moved, thereby discharging the liquid to an exterior; and

a lever pivotably mounted to the main body and pressing the liquid discharge-operating member protruded through the hole of the cover to be moved.

2. The apparatus according to claim 1, wherein the liquid discharging member comprises,

a first elastic member compressively supported on the support member;
an upper opening/closing member forced upwardly by the first elastic member, having an operating shaft formed at a lower surface thereof, downwardly protruding through the support member in the protrusion part and fixed at a lower surface of the support member by a fastening member, and capable of being air-tightly engaged to the protrusion part at a connected region with the liquid storing part; and
a pressing member mounted on the upper opening/closing member, having a second elastic member mounted therein, protruding through the hole of the cover and downwardly pressed by the lever to move the upper opening/closing member.

3. The apparatus according to claim 2, wherein the upper opening/closing member comprises a push-pin protrudingly formed on a top of the operating shaft thereof and a plurality of air passages at circumferences of the shaft, and wherein the pressing member is formed with an air passage at a center of a top part thereof.

4. The apparatus according to claim 3, wherein the liquid discharge-operating member comprises,

a pushing member arranged on the upper opening/closing member, opened upwardly and formed with an air supply aperture at a lower center thereof into which the push-pin of the upper opening/closing member is inserted and a fixing recess at a periphery of the pushing member;

an air sealing member mounted around the air supply aperture of the pushing member, inserted into the pressing member and sealing the air supply aperture by an elastic force applied from the second elastic member in the pressing member; and

a variable member having a first fixing protrusion inserted and fixed in the fixing recess of the pushing member and a second fixing protrusion inserted and fixed in a fixing step protruding outwardly from the hole of the cover, the variable member being fixed while surrounding the pushing member and the pressing member.

5. The apparatus according to claim 4, wherein the variable member is made of a material capable of being easily deformed by an external force, and

wherein a length between the first fixing protrusion fixed to the cover and the second fixing protrusion inserted in the pushing member is extended when the pushing member is downwardly moved as the pressing member is operated downwardly by the lever.

6. The apparatus according to claim 1, wherein the liquid discharging member comprises,

a liquid inflow member having a space formed therein, thread-engaged with the threaded part of the protrusion part and capable of being vertically relatively-movable to the protrusion part, thereby regulating a volume of the protrusion part; and

a lower opening/closing member connected to the liquid discharge-operating member so that it is operated by the liquid discharge-operating member and capable of being air-tightly engaged to a lower part of the liquid inflow member.

7. The apparatus according to claim 2, wherein the liquid discharging member comprises,

a liquid inflow member having a space formed therein, thread-engaged with the

threaded part of the protrusion part and capable of being vertically relatively-movable to the protrusion part, thereby regulating a volume of the protrusion part; and

a lower opening/closing member connected to the liquid discharge-operating member so that it is operated by the liquid discharge-operating member and capable of being air-tightly engaged to a lower part of the liquid inflow member.

8. The apparatus according to claim 3, wherein the liquid discharging member comprises,

a liquid inflow member having a space formed therein, thread-engaged with the threaded part of the protrusion part and capable of being vertically relatively-movable to the protrusion part, thereby regulating a volume of the protrusion part; and

a lower opening/closing member connected to the liquid discharge-operating member so that it is operated by the liquid discharge-operating member and capable of being air-tightly engaged to a lower part of the liquid inflow member.

9. The apparatus according to claim 4, wherein the liquid discharging member comprises,

a liquid inflow member having a space formed therein, thread-engaged with the threaded part of the protrusion part and capable of being vertically relatively-movable to the protrusion part, thereby regulating a volume of the protrusion part; and

a lower opening/closing member connected to the liquid discharge-operating member so that it is operated by the liquid discharge-operating member and capable of being air-tightly engaged to a lower part of the liquid inflow member.

10. The apparatus according to claim 5, wherein the liquid discharging member comprises,

a liquid inflow member having a space formed therein, thread-engaged with the threaded part of the protrusion part and capable of being vertically relatively-movable to the protrusion part, thereby regulating a volume of the protrusion part; and

a lower opening/closing member connected to the liquid discharge-operating member so that it is operated by the liquid discharge-operating member and capable of being air-tightly engaged to a lower part of the liquid inflow member.

11. The apparatus according to claim 9, wherein the lower opening/closing member is thread-connected with the operating shaft of the upper opening/closing member and moved together with the upper opening/closing member.

12. The apparatus according to claim 11, further comprising a lower cover connected to a lower outside of the protrusion part and having an outlet discharging the liquid flowing out between the liquid inflow member and the lower opening/closing member to an exterior.

13. The apparatus according to claim 1, wherein the liquid is oral cleaning liquid.